

REMARKS

Applicants have carefully studied the outstanding Official Action. The present response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

The Application as examined included claims 26 and 28-38. Claims 2 and 27 were previously cancelled. Claims 1, 3-25 and 39-50 were previously withdrawn.

In the present response, pending claim 28 and withdrawn claims 3, 15 and 40 are cancelled without prejudice. Pending claims 26, 32-33 and 38 and withdrawn claims 1, 7-8, 13-14, 19-20, 25, 39, 44-45 and 50 are amended. Pending claims 29-31 and 34-37 and withdrawn claims 4-6, 9-12, 16-18, 21-24, 41-43 and 46-49 are unchanged.

Claims 26, 28-30 and 32-37 stand rejected under 35 U.S.C. 102(b) as being anticipated by Nathan et al (U.S. Patent No. 6,197,450, hereinafter Nathan '450). Claim 31 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nathan et al and further in view of Rigal et al (U.S. Patent No. 4,346,153). Claim 38 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nathan et al and further in view of Ohsawa et al (U.S. Patent No. 5,162,178).

Claims 26 and 28-38 stand provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 11/374,469. Applicants respectfully submit that the claims as amended do not claim the same invention as that recited in claims 1-13 of copending Application No. 11/374,469.

Nathan '450 describes thin-film micro-electrochemical energy storage cells (MEESC) including two thin layer electrodes, an intermediate thin layer of a solid electrolyte and optionally, a fourth thin current collector layer; where the layers are deposited in sequence on a surface of a substrate.

Rigal describes an electrode for a lead-acid storage cell, the electrode containing an active material, an active material support and at least one electric conductor which includes a

core made of a metal whose electric conductivity is higher than that of lead. The core is coated with a protective layer made of a substance chosen from the group comprising titanium, tungsten, tantalum, niobium, zirconium and alloys thereof.

Ohsawa describes a negative electrode for a secondary battery.

Claim 26 is amended to include the recitation of claims 28 and portions of claim 32. Withdrawn claims 1, 14 and 39 are similarly amended. Claims 32 and 38 are amended in light of the amendments to claim 26. Withdrawn claims 7 and 13, withdrawn claims 19 and 25, and withdrawn claims 44 and 50 are similarly amended. Claim 33 is amended to depend from claim 26 instead of claim 32. Withdrawn claims 8, 20 and 45 are similarly amended.

The microbattery of the present invention, as recited in amended claim 26, includes, inter alia, a perforated conductive substrate including a plurality of cavities, and a thin film cathodic layer electrochemically formed on at least one surface of the conductive substrate, where the cathodic layer includes at least one material selected from the group consisting of sulfides of copper, sulfides of cobalt, sulfides of tungsten, oxides of copper, oxides of cobalt, oxides of tungsten and mixtures thereof and where the cathodic layer is deposited between the cavities and throughout the inner surfaces of the cavities.

Applicants respectfully submit that the prior art of Nathan '450 does not show or suggest a thin film cathodic layer electrochemically formed on at least one surface of a conductive substrate including a plurality of cavities, where the cathodic layer includes at least one material selected from the group consisting of sulfides of copper, sulfides of cobalt, sulfides of tungsten, oxides of copper, oxides of cobalt of the formula Co_mO_n , oxides of tungsten and mixtures thereof and where the cathodic layer is deposited between the cavities and throughout the inner surfaces of the cavities, as recited in amended claim 26.

Applicants submit that none of the cited prior art, alone or in combination, shows or suggests a microbattery, as recited in amended claim 26, including, inter alia, a thin film cathodic layer electrochemically formed on at least one surface of a conductive substrate including a plurality of cavities, where the cathodic layer includes at least one material selected from the group consisting of sulfides of copper, sulfides of cobalt, sulfides of tungsten, oxides of copper, oxides of cobalt of the formula Co_mO_n , oxides of tungsten and mixtures thereof and

where the cathodic layer is deposited between the cavities and throughout the inner surfaces of the cavities, and that amended claim 26 is therefore patentable.

Claims 29-38 each depend directly or ultimately from claim 26 and therefore are allowable.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,

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